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Brief report

Nasal colonization of *mecA*-positive, oxacillin-susceptible, methicillin-resistant *Staphylococcus aureus* isolates among nursing staff in an Iranian teaching hospital

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Methicillin-resistant *Staphylococcus aureus* (MRSA) is a major cause of health care-associated infections. In this study, a total of 173 nurses was screened for *S aureus* nasal colonization, of which 8 (4.6%) were MRSA carriers. Among the MRSA isolates, 6 were *mecA* positive and oxacillin resistant, and 2 were *mecA*-positive, oxacillin-susceptible (OS-MRSA) strains. Reports of the OS-MRSA strains are increasing worldwide. To the best of our knowledge, this study is the first report on the occurrence of OS-MRSA strains in Iran.

Methicillin-resistant *Staphylococcus aureus* (MRSA) is endemic in many hospitals worldwide.[1] Nurses have a high frequency of close contact with patients; hence, the risk for the acquisition and carry of MRSA for this community is higher than for the other health care workers (HCWs).[2] Carriage of MRSA by HCWs is important from 2 aspects: (1) Sometimes the source of staphylococcal infections is endogenous, and carriage of MRSA may predispose the carrier to subsequent staphylococcal infections.[1] (2) As carriers, HCWs can serve as reservoir for bacterium and transmit it to their households and hospitalized patients.[1] In this study, we aimed to determine the prevalence of nasal colonization and antibiotic resistance profile of MRSA strains in nursing staff in a teaching hospital affiliated to Ardabil University of Medical Sciences in Iran.

METHODS

This cross-sectional study was performed in 2010 among nursing staff in a major university-affiliated teaching hospital. The subjects were screened for nasal carriage of *Staphylococcus aureus*. Antibiotic sensitivity of the isolates was tested by disk diffusion method, except for vancomycin, which was determined using agar dilution method. The minimum inhibitory concentration (MIC) of pristinamycin for resistant strains (based on disk diffusion method) was further determined using E-test strips. All tests were carried out and interpreted according to Clinical and Laboratory Standards Institute guidelines.[3] Methicillin resistance was evaluated using 2 methods: polymerase chain reaction for the *mecA* gene (positive indicated MRSA) and cefoxitin disk diffusion test ($\leq$21 mm indicated MRSA). Additionally, oxacillin MICs ($\geq$4 μg/mL indicated MRSA) were determined using agar dilution method.[3] In the literature, *mecA*-positive and oxacillin-susceptible *Staphylococcus aureus* isolates are rare.

The protocol was approved by the local Ethical Committee of Ardabil University of Medical Sciences, and informed consent was obtained from each subjects. Data were analyzed using descriptive statistics.

RESULTS

A total of 173 (86.5%) out of 200 nurses participated in the study. The prevalence of nasal carriage of *S aureus* was 23.7% (41), of

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